

REMARKS

Claims 1 - 12 remain active in this application. Claims 13 - 20 have been canceled in accordance with the Examiner's instructions. The indication of claims 8 - 12 as being drawn to allowable subject matter is noted with appreciation. No new matter has been introduced into the application.

The Examiner has objected to claims 8 - 12 as depending from a rejected claim but indicated that these claims would be allowable if rewritten in independent form. This objection is respectfully traversed in accordance with the traverse of the underlying rejection of claims 1 - 7 as will be set out below.

Claims 1 - 7 have been rejected under 35 U.S.C. §102 as being anticipated by Kumagai et al. This sole ground of rejection is respectfully traversed for the reasons of record, and the further remarks provided below.

To summarize arguments previously presented, Kumagai is directed to alteration of carrier mobility and provides twelve embodiments in which adjustment of carrier mobility is achieved to some degree by different structures formed by different methods. However, none of these twelve embodiments teach or suggest the attribution of channel stress to silicide on gate structures. In particular, it is respectfully submitted that Kumagai fails to teach or suggest the claimed method, including "alloying [a] metal or combination of metals and [a] transistor gate structure to form a *first stressed alloy within said transistor gate . . .*" Furthermore, it appears that Kumagai does not even recognize the possibility of *the development of different stress by forming stressed alloy (or "silicide" as used in the sense described ast page 13, lines 13 - 16 of the present specification) in the gate structure*. This is because Kumagai teaches silicide film 17 to which no stress generation or transfer is attributed, as well as using silicide of controlled thickness in the source and drain regions of a transistor but not in the gate structure thereof.

Furthermore, the MPEP 2131 expressly states that "to anticipate a claim, the reference must teach every element in the claim" (emphasis added). The MPEP 2131 further states "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." See *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1051, 1053 (Fed. Cir. 1987). Thus, what Kumagai may "recognize" in regard to the general state of the art is irrelevant under 35 U.S.C. §102.

Here, the development of different stresses in gate structures, as well as the different stresses being directly attributable to silicide or silicide formation, as highlighted in the claims of the present invention is neither taught nor suggested by Kumagai. Furthermore, the Examiner has acknowledged that Kumagai fails to specifically describe the development of different stresses in gate structures (see page 2 of the Office Action). It is therefore respectfully submitted that the rejections to the claims are improper under 35 U.S.C. §102 as Kumagai cannot anticipate the rejected claims since it does not “teach the identical invention” as expressly admitted by the Examiner.

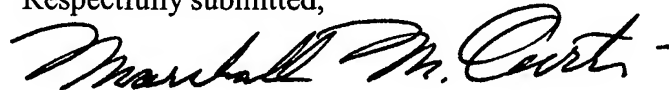
Since the above limitations are not taught or suggested, Kumagai cannot support a *prima facie* rejection for anticipation under 35 U.S.C. §102. Based on the above discussion with reference to the MPEP guidelines, it is respectfully requested that the rejections based on 35 U.S.C. §102 be withdrawn and claims 1 - 12 be allowed.

It is also respectfully submitted, for the reasons discussed above, that Kumagai does not provide evidence of a level of ordinary skill in the art which would support a conclusion of obviousness in regard to the subject matter of any claim. *It is believed to be highly significant in this regard that the fourth and fifth embodiments of Kumagai et al., the only embodiments in which stresses are transferred from the gate structure to the transistor channel, that the stresses are developed from ion implantation or grain size manipulation but not from silicide formation.* Therefore, Kumagai et al. clearly does not lead to an expectation of success in achieving enhancement of carrier mobility by silicide formation in a transistor gate structure, as claimed, much less doing so for single transistors or in a complementary fashion for transistors of opposite conductivity types.

Since all rejections, objections and requirements contained in the outstanding official action have been fully answered and shown to be in error and/or inapplicable to the present claims, it is respectfully submitted that reconsideration is now in order under the provisions of 37 C.F.R. §1.111(b) and such reconsideration is respectfully requested. Upon reconsideration, it is also respectfully submitted that this application is in condition for allowance and such action is therefore respectfully requested.

If an extension of time is required for this response to be considered as being timely filed, a conditional petition is hereby made for such extension of time. Please charge any deficiencies in fees and credit any overpayment of fees to International Business Machines Deposit Account No. 09-0458.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Marshall M. Curtis", followed by a short horizontal line.

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